

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

TBK-Patent
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY
EXAMINING AUTHORITY

(PCT Rule 66)

RECEIVED
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- 9. Feb. 2004

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(day/month/year)

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Applicant's or agent's file reference

WO 33715

TBK - PATENT

REPLY DUE

within 60 days from
the above date of mailing

International application No.

PCT/IB 2002/002423

International filing date (day/month/year)

26-06-2002

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC

H04L 29/06, H04L 12/14, H04M 15/00, H04Q 7/38

Applicant

Nokia Corporation et al

1. ☐ The written opinion established by the International Searching Authority:

☐ is

☐ is not

considered to be a written opinion of the International Preliminary Examining Authority.

2. This first (first, etc.) opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6. For an additional opportunity to submit amendments, see Rule 66.4.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is:

23-01-2004

Name and mailing address of the IPEA/SE

Patent- och registreringsverket
Box 5055
S-102 42 STOCKHOLM

Facsimile No. 46 8 667 72 88

Form PCT/IPEA/408 (cover sheet) (January 2004)

Authorized officer

Nabil Sebaa /LR

Telephone No. 46 8 782 25 00

WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

International application No.

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Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this opinion has been established on the basis of *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed.")*:

☒ the international application as originally filed/furnished

☐ the description:

pages _____ as originally filed/furnished

pages _____ received by this Authority on _____

pages _____ received by this Authority on _____

☐ the claims:

pages _____ as originally filed/furnished

pages _____ as amended (together with any statement) under Article 19

pages _____ received by this Authority on _____

pages _____ received by this Authority on _____

☐ the drawings:

pages _____ as originally filed/furnished

pages _____ received by this Authority on _____

pages _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

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Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims

Claims

Inventive step (IS)

Claims

1-13

Claims

Industrial applicability (IA)

Claims

Claims

2. Citations and explanations:

Reference is made to the following documents:

D1: US 2002/065785 A

D2: WO 01 67706 A

D3: WO 02 11468 A

The claimed invention relates to a method of providing an accounting service in a mobile communication system by utilizing a separated accounting server.

The aim of using a separated accounting server is to reduce problems with security threads in a AAA infrastructure where several AAA-C located in various places can be connected to the AAA infrastructure via some brokers, making the system vulnerable to malicious users trying to enter the system.

Document D1 describes a mobile communication system and a method for providing an accounting service in an AAA architecture, wherein the AAA at the home network carries out a processing for providing the desired accounting service according to the authentication and accounting request transmitted by a mobile node device (see abstract).

Document D2 relates to a method and system of negotiating reporting mechanisms for accounting records and reporting accounting records from a node to an accounting service (see abstract). The protocol used for carrying and reporting accounting records is the RADIUS protocol. This protocol transports records between network servers in serving networks where mobile nodes are currently operating and an AAA server which is normally located in the mobile node's home network.

Document D3 describes also the use of accounting functions AAA

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

in a mobile communication system where the RADIUS protocol with a dedicated server is used (see page 3, line 3-page 4, line 25 page 6, line 11-page 8, line 3; abstract)

Claims 1, 12, 13

The claimed invention according to claims 1, 12, 13 describes a method, system and accounting server device, whereas the method comprises the steps of:

Accessing a service by a user; authenticating the user and authorizing the user by an AA-S server; and indicating for the user an accounting server ACC-1 by the AA-S, wherein the ACC-1 is physically separated from the AA-S.

As illustrated and described in D1, a user located in a visited network and requesting for a service is authenticated and authorized by AAAH server located in the home network as is the case of claim 1. The AAAH server then carries out the electronic settlement with respect to the AAAY server located in the visited network and transmits a packet for information regarding the payment to the AAAY server. The AAAY server could be physically separated from the AAAH server, but could also be the same server as the AAAH server or also be the same server as the AAAF server, which is a foreign server used for accounting. Thus, the accounting server could be physically separated from the authenticating/authorization server of the home network (see paragraphs [0022], [0025], [0104]-[0107], [0138]-[0148], figures 13, 14, 16 in D1).

The claimed invention according to independent claims 1, 12 and 13 differs from D1 in that an indication of an accounting server for the user by the home server is not performed. Instead, in D1, a confirmation of the accounting processing is always sent to the mobile user either directly from the AAAH or via a foreign AAAF server (see paragraph [0104]). However, sending an indication to the mobile user on the accounting server is not considered to confer any element of inventive significance regarding the art known from D1. The reason is simply that authorization and authentication processes must be performed by the home server before accounting is processed. If these succeeded, the accounting process can begin. Thus an additional indication from the home server is unnecessary in this case.

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Supplemental Box

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Continuation of: BOX V

D2 which is also considered relevant to the claimed invention according to claims 1, 12 and 13 clearly specifies that the accounting server could be physically separated from the home server (see page 6, lines 18-24, and claim 1 in D2). Similarly to D1; D2 differs from claims 1, 12 and 13 concerning the indication of an accounting server for the user explained above.

This difference is not considered to confer any new element of inventive significance, based on the arguments given earlier. The claimed invention according to claims 1, 12, 13 is therefore considered to lack an inventive step.

Claims 2-4

According to claims 2-4, the AA-S is a home server located in the home network of the user; and the chargeable functionality is a service provided in the visited network.

Both D1 and D2 describe an AA server located in the home network and a service provided by the visited network. The claimed invention according to claims 2-4 is therefore considered to lack an inventive step.

Claim 5

The claimed invention according to claim 5 indicates that an AAA-C client to which the user is currently attached in the visited network transmits an AA-request to the home AA-S server. The latter replies by sending a message to the AAA-C wherein the message includes an indication of an accounting server for the user.

According to D1 (see paragraphs [0104]-[0107]), an AA-request is transmitted to the home server either directly or via an AA-AF, which is a foreign client server. In addition, since the accounting could be performed separately from the home AA-AH-server, a confirmation of the accounting process is transmitted to the user. As mentioned earlier, no indication of the ACC-1 is transmitted to the user since the AA-procedure must first be performed before the accounting process can commence. However, based on arguments given above, in case the AA-procedure succeeds which is understood from D1, an indication of the accounting server is unnecessary.

The claimed invention according to claim 5 is therefore considered to lack an inventive step.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

Claims 6-7

The claimed invention according to claims 6-7 is not considered inventive based on arguments given above concerning the message including the indication of an accounting server.

Claims 8-11

In view of the cited documents D1-D3, the features described in the present claims 8-11 are all measures considered as obvious to a person skilled in the art. Therefore, the claimed invention according to these claims 8-11 is not considered to involve an inventive step.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

According to claim 3 is the chargeable functionality a visited network of the mobile communication system.

According to claim 4 is the chargeable functionality a service of the mobile communication system.

As can be noticed above, the chargeable functionality can not be a visited network and at the same time a service. Instead, the chargeable functionality is in the present application understood as a service provided in a visited network of the mobile communication system, which makes more sense.